



Docket No. 9539-000055

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Michalek et al :
Serial No. 10/085,743 : Group: 2862
Filed: February 26, 2002 : Examiner: Reena Aurora
For: Press-In Exciter Ring Assembly :

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Director of the U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

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AFFIDAVIT OF MATTHEW S. BROWN

Sir:

The undersigned being duly sworn, states that to the best of his/her knowledge and belief:

1. I am a witness on the attached Exhibit A which is a copy of an invention disclosure submitted to the American Axle & Manufacturing patent department.
2. I understood the invention at the time I signed the information disclosure form.
3. The date of the signatures, which are whited out in Exhibit A, are prior to the effective filing date, which is November 2, 2001, of U.S. Patent No. 6,549,001.



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Further Affiant sayeth not.

Matthew S. Brown

State of Michigan)
County of Wayne) ss.

On this 26th day of February, 2004, before me personally appeared the foregoing individual, who executed the foregoing instrument and who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

(seal)

Notary Public,

Macomb County
State of Michigan Acting in Wayne County, Mi
My Commission Expires: 08/25/05

RECORD OF INVENTION

1. This invention is disclosed in the following sketches, drawings, written description, and/or technical reports (attach copies).

THESE DOCUMENTS SHOULD PROVIDE A FULL DISCLOSURE OF YOUR INVENTION AND SHOULD BE SIGNED AND DATED BY EACH INVENTOR AND BY TWO WITNESSES WHO UNDERSTAND THE INVENTION.

2. This invention was first thought of on _____
3. First sketch or drawing (attach copy) was made by JOHN S. MICHALEK on _____
4. First written description (attach copy) was made by JOHN S. MICHALEK on _____
5. This invention was first disclosed to MARK SPRETTZER - CHICAGO RADIATOR on _____
6. First tests (attach copy of results) were made by _____ on _____
7. This invention was or is expected to be published or disclosed outside AAM to:
MARK SPRETTZER - CHICAGO RADIATOR on _____
8. This invention was or is expected to be used in production starting on _____
9. In addition to those identified above, the following people can also testify to facts relating to the making of this invention:

10. The nearest thing or things to this invention that I know of are:
EXCERPT FROM PREVIOUS AXLE AND SHAFT PROOF TO ASSEMBLY.

I HEREBY ASSIGN THIS INVENTION TO AMERICAN AXLE & MANUFACTURING, INC. AND AUTHORIZE AMERICAN AXLE & MANUFACTURING, INC. TO FILE AN APPLICATION FOR PATENT ON MY BEHALF.

John S. Michalek
INVENTOR SIGNATURE

Matthew P. Brown
INVENTOR

DATE

This invention was reviewed and understood by me

Matthew P. Brown
WITNESS

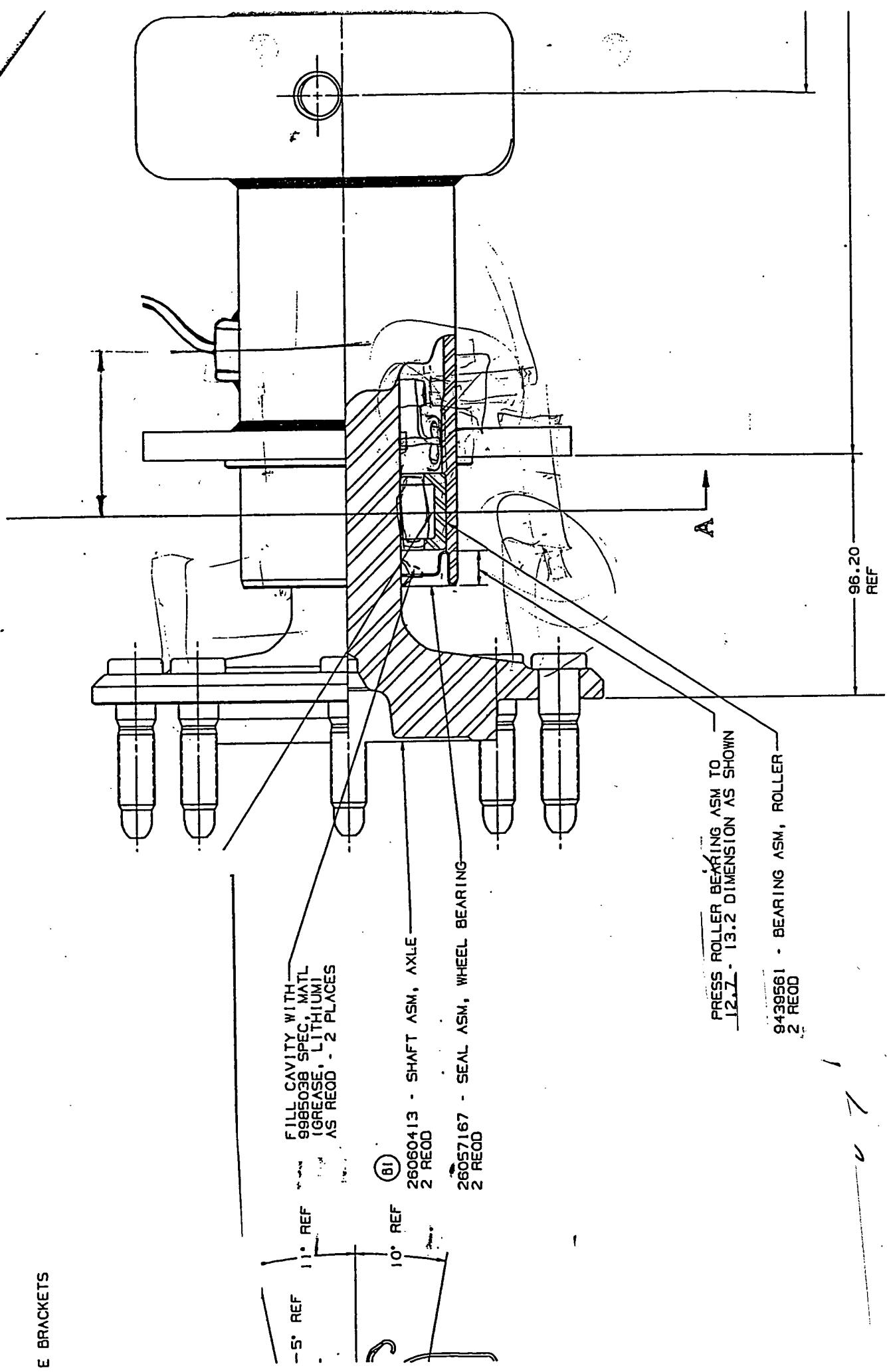
DATE

Mark L. An
WITNESS

INVENTOR
INVENTOR

DATE

E BRACKETS



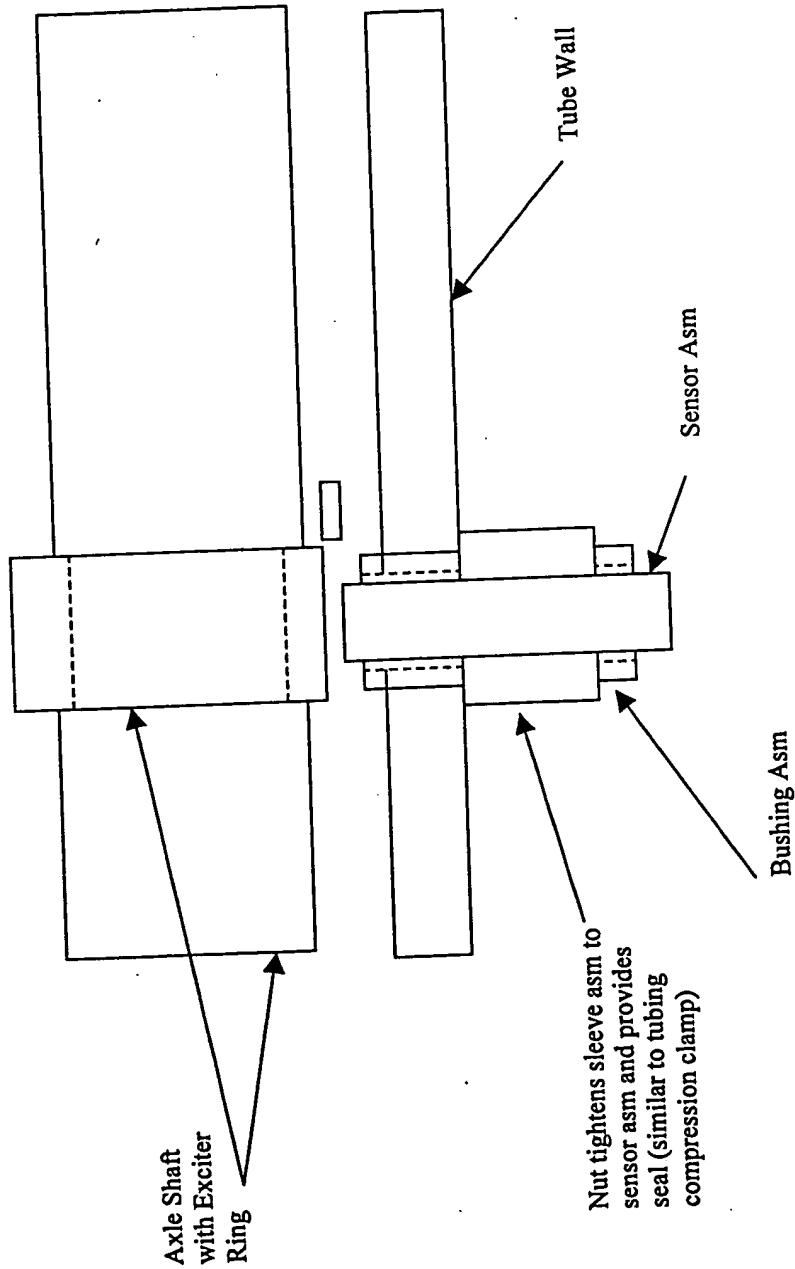
Press-In Exciter Ring Assembly

The Press-In Exciter Ring Assembly is comprised of an exciter ring (or exciter ring assembly) for shaft motion sensing which is loosely assembled to, and retained by an outer member. This outer member allows retention of the exciter ring into a single assembly called the Press-In Exciter Ring Assembly. This Press-In Exciter Ring Assembly can then be installed into a hollow member (such as an axle tube) inboard of the other components allowing the total assembly to have a larger exciter ring for speed sensing than would be possible under conventional methods.

Shaft installation process: The shaft is installed through the seal and bearing, it will travel through and be retained by the exciter ring inside diameter. The axial movement of the exciter ring would be limited by the outer member, which effectively positions the exciter ring properly when the shaft reaches its final position

Additional performance of this method can be obtained through use of a variable position sensor retaining mechanism. This mechanism will allow continuously variable positioning of the sensor so as to permit minimum gap to the exciter ring.

Proposed Wheel Speed Sensing Design



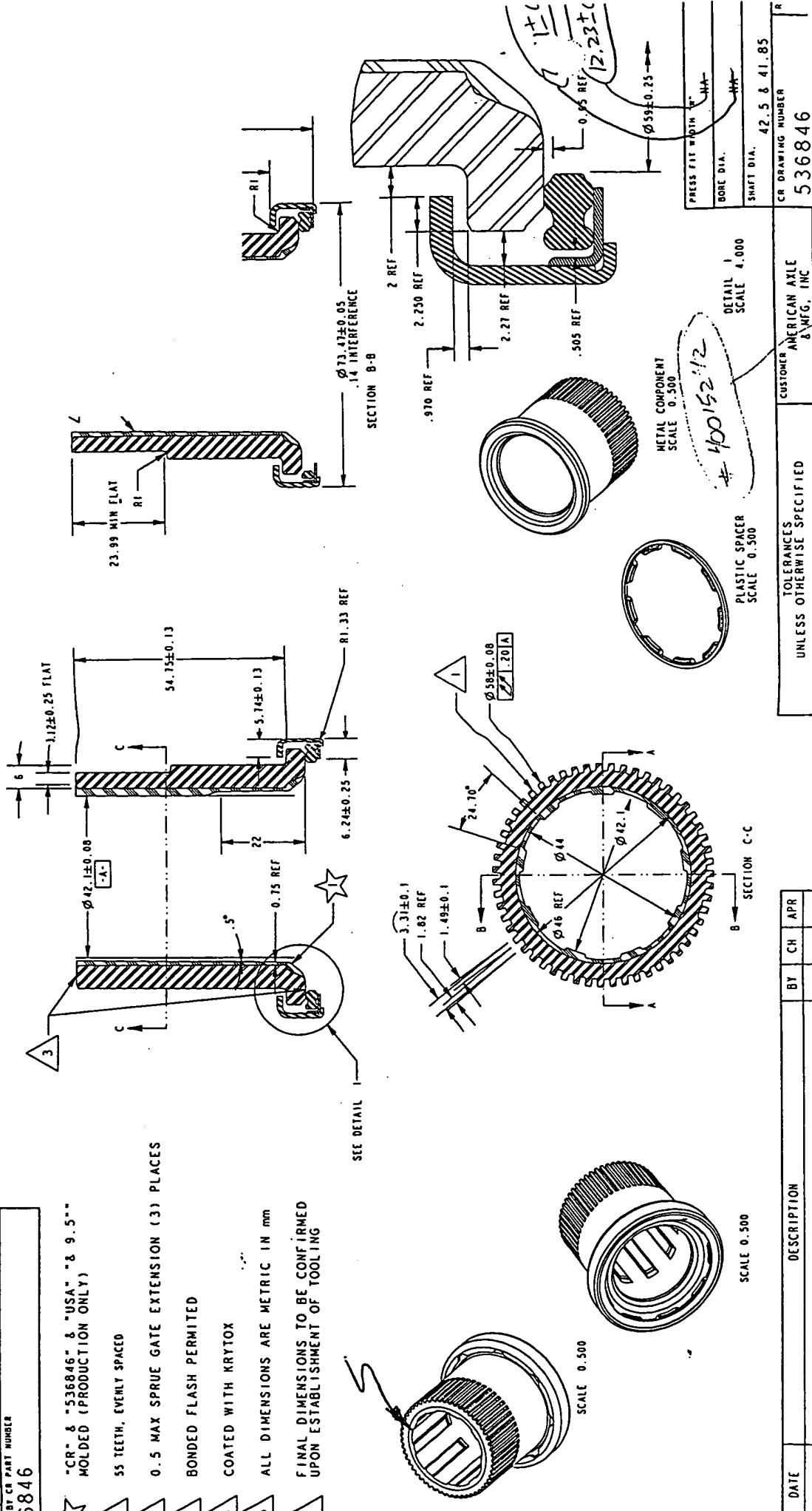
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- The technical drawing shows a five-pointed star-shaped component. Dimension lines indicate the following measurements:

 - Width of each point: "0.5 MAX SPRUE GATE EXTENSION (3) PLACES"
 - Width of the central cavity: "0.5 MAX SPRUE GATE EXTENSION (3) PLACES"
 - Thickness of the star: "0.5 MM"
 - Radius of the inner corners: "0.1 MM"
 - Radius of the outer corners: "0.1 MM"
 - Length of the top horizontal edge: "1.5 MM"
 - Length of the bottom horizontal edge: "1.5 MM"
 - Width of the top horizontal edge: "0.5 MM"
 - Width of the bottom horizontal edge: "0.5 MM"

Other markings include:

 - "BONDED FLASH PERMITTED" near the top center.
 - "COATED WITH KRYTOX" near the bottom center.
 - "ALL DIMENSIONS ARE METRIC IN mm" on the right side.
 - "FINAL DIMENSIONS TO BE CONFIRMED UPON ESTABLISHMENT OF TOOLING" on the far right.
 - "MOLDED (PRODUCTION ONLY)" on the left side.
 - "SS TEETH, EVENLY SPACED" below the "MOLDED" text.
 - "CR- & "53686" & "USA" & 9.5 -" at the very top left.



ALL INFORMATION, DRAWINGS AND IDEAS HEREIN CONSTITUTE A CONFIDENTIAL DISCLOSURE OF CHICAGO HARVEY, AND ARE THE EXCLUSIVE PROPERTY OF THIS INFORMATION MUST NOT, WITHOUT WRITTEN AUTHORIZATION, BE REPRODUCED OR DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE. THIS SHEET MUST BE RETURNED PROMPTLY UPON REQUEST.